

amendment to the range for manganese is found at page 30, line 7 and Figure 9 of the specification. Support for the amendment to the range for tungsten is found at page 23, line 15 of the specification.

Claims 1-6 and 16-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.K. Patent Application 2128633 (U.K. '633). The Examiner states that the reference teaches an alloy with constituents whose weight percentage ranges overlap those recited by the claims. The Examiner contends that such overlap renders Applicant's composition *prima facie* obvious despite differences in non-overlapping ranges. In support of this contention the Examiner cites In re Malagari, 182 USPQ 549. The Examiner concludes that although the prior art does not teach an article intended to be submerged in zinc and aluminum/zinc melts as recited by the claims, such is not a patentable difference because it merely represents Applicants' intended use. Applicant respectfully traverses.

First, Applicant maintains that the Examiner's contention that U.K. '633 overlaps the presently claimed invention is inaccurate. More specifically, Applicant's claimed invention requires less than 1 percent silicon. In contrast, U.K. '633 requires a minimum of 3% silicon, preferably a minimum 3.5% silicon, most preferably 4% silicon, and typically 4.7% silicon. Accordingly, there is no overlap with respect to this critical limitation in the presently claimed invention.

In this context, In re Malagari is not even applicable. Specifically, the Court in Malagari states that "there is no question that the claimed invention is rendered *prima facie* obvious by the teachings of Goss. The process taught by Goss is similar to that claimed by Appellant, and the claimed range of carbon in the steel used as a starting material touches that in the "typical preferred range" of the reference." Accordingly, In re Malagari establishes that *prima facie* obviousness results when the ranges in the prior art reference and the claimed invention "touch". However, there is a significant divergence between the prior art level of silicon and Applicant's claimed preference for less than 1% silicon. Moreover, the composition in UK '633 and the presently claimed alloy do not "touch".

Furthermore, Applicant notes that the present specification (see page 15, lines 1-3) states that silicon does not generate carbides at the standard processing temperatures so its use in resistant alloy formations should be excluded. In this context, should the Examiner contend that the modification of UK '633 to reduce the silicon content would be obvious to the skilled practitioner, Applicant notes the decision in *In re Waymouth et al.* 182 USPQ 290 (CCPA 1974), wherein the Court held that the fact that the percentages of the chemical components of a chemical compound fall within the general proportions of the references does not preclude patentability where the disclosure of the specification is persuasive of the criticality of the claimed proportions. In this context, not only is there no overlap with UK '633, but in addition, the present application clearly evidences that a composition substantially free of silicon is a critical element of the invention. Since this concept is not contained whatsoever in UK '633 and, in fact, UK '633 teaches away from such a composition, *prima facie* obviousness has not been established and/or has been rebutted.

In addition, although the Examiner acknowledges that the prior art does not teach an article intended to be submerged in molten zinc and aluminum/zinc melts, but concludes that such is not a patentable difference, because it is merely Applicant's intended use, Applicant notes that the functionality of the claimed compositions in the molten zinc and/or aluminum environment is pertinent with respect to the evaluation of whether or not the claimed compound demonstrates criticality with respect to particular ingredients. Accordingly, if the prior art composition is inferior because of a difference in ranges--even for one particular application--this is relevant information for overcoming obviousness. In considering such factors, it is clear that the present invention is unobvious in view of the teachings of the applied prior art. Accordingly, withdrawal of the rejection is respectfully requested.

Claim 18 is rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. The Examiner notes that there is no antecedent basis for "selected element". Applicant has amended the

claim to correct this error and withdrawal of the rejection is therefore respectfully requested.

In view of the above, Applicant submits that this application is in condition for allowance and such action is respectfully requested.

If any fee is due in conjunction with the filing of this response, Applicant authorizes deduction of that fee from Deposit Account 06-0308.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this AMENDMENT is being deposited with the United States Postal Service as first class mail in envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231 on this October 27, 1998.



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